



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,778	03/16/2004	Koichi Kawamura	Q80446	2631
23373 7590 06/01/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
			EXAMINER AHMED, SHEEBA	
			ART UNIT 1773	PAPER NUMBER
			MAIL DATE 06/01/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/800,778

Applicant(s)

KAWAMURA ET AL.

Examiner

Sheeba Ahmed

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-14, 16 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-14, 16 and 20-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 1, 2007 has been entered.

### ***Response to Amendments***

2. Amendments to claims 9, 12, 16, and 20 have been entered in the above-identified application. Claims 1-22 are pending of which **claims 9-14, 16, and 20-22 are under consideration.**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 9-14, 16, and 20-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 9, 12, 16, and 20 recite "fine particles". The term "fine" in the above-mentioned claims is a relative term, which renders the claims indefinite. The term "fine" is not defined by the claim, the specification does not

Art Unit: 1773

provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Independent claims 9, 12, 16, and 20 have been amended to recite that the particles "do not interact with a hydrophilic functional group of the graft polymer". It is unclear, from both the claims and the Specification, what is meant by "do not interact". Do the Applicants intend to recite that the particles do not ionically interact with hydrophilic functional group of the graft polymer or that the particles do not interact with the hydrophilic functional group of the graft polymer such that the movement of the particles is not hindered? As amended, the language of the independent claims is ambiguous and does not set forth the subject matter which applicant regards as the invention.

Appropriate correction or clarification is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 9-14, 16, and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawamura et al. (US 6,811,878 B2).

Art Unit: 1773

Kawamura et al. disclose a conductive film comprising conductive fine particles adsorbed on a support, a conductive film comprising a transparent conductive layer such as an ITO layer provided on a support and a conductive film comprising a conductive polymer film provided on a support (Column 1, lines 9-15). The conductive film is produced by forming a hydrophilic surface by making hydrophilic polymer chains present on the surface and combining the hydrophilic surface and a conductive polymer. The graft polymer has a high ion-adsorbing property and hence the graft polymer has a strong ability to adsorb charged particles and allow arrangement and dense line-up of the conductive particles (Column 3, lines 8-19). The surface layer densely lined up with conductive fine particles can be formed without using any binder. A transparent conductive film can be readily formed by selecting transparent materials for the support and specifying the diameter of the conductive fine particles to be adsorbed (Column 45-64). Methods for forming a surface having surface graft polymers includes a method in which a reactive functional group such as a trialkoxysilyl, isocyanate, amino, hydroxyl, and carboxyl are attached to the terminal of a polymer compound chain to cause a coupling reaction with the functional group on the surface of the support (Column 5, lines 12-20). In order to produce a transparent conductive film, especially for the purpose of securing light transmission, the diameter of the particles used is in the range of 0.2 to 100nm. The particles, ionically bind to the graft surface, are disposed in a regularly aligned manner to form a monolayer (Column 6, lines 45-55). Examples 1 and 2 describe grafting acrylic acid to the surface of a PET film and immersing the grafted PET film in a

Art Unit: 1773

dispersion of Ag particles. Any excess dispersion of fine particles is then removed to produce a conductive film. The Examiner takes the position that the particles described in Kawamura do not interact with a hydrophilic functional group of the graft polymer and hence all limitations of claims 9-14, 16, and 20-22 are disclosed in the above reference.

5. Claims 9-14, 16, and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawamura et al. (US 6,566,029).

Kawamura et al. disclose a lithographic printing plate precursor which comprises a support having a hydrophilic surface containing hydrophilic graft polymer chains and a heat sensitive layer containing at least either of fine particulate polymer or microcapsules (Column 2, lines 14-18). The support is provided with a hydrophilic surface wherein hydrophilic graft polymer chains exist. The hydrophilic graft polymer chains may directly be bound to the surface of the support or may be provided by coating or by coating followed by crosslinking (Column 3, lines 1-8). Another method for forming a surface having formed therein the surface graft polymer comprises providing a reactive functional group such as a trialkoxysilyl group, an isocyanate group, an amino group, a hydroxyl group, or a carboxyl group (Column 3, lines 50-57). The heat sensitive layer contains fine particulate polymers such as a thermoplastic fine particulate polymer having a functional group capable of mutually acting with the hydrophilic graft polymer (Column 6, lines 2-5). The heat sensitive layer is formed by dissolving or dispersing the particles in a solvent to prepare a coating solution

Art Unit: 1773

then coating the coating solution on the hydrophilic surface of the support. The coating amount of the heat sensitive layer is 0.5 to 5.0 g/m<sup>2</sup> (Column 16, lines 45-65). The examples illustrate that the heat sensitive layer is dried in an oven at 100°C for 60 seconds after coating (Column 20, lines 46-53). The Examiner takes the position that the particles described in Kawamura do not interact with a hydrophilic functional group of the graft polymer and hence all limitations of claims 9-14, 16, and 20-22 are disclosed in the above reference.

### ***Response to Arguments***

6. Applicant's arguments filed on January 31, 2007 have been fully considered but they are not persuasive. Applicants traverse the rejection of claims 9-14, 16, and 20-22 under 35 U.S.C. 102(e) as being anticipated by Kawamura et al. (US 6,811,878 B2) and Kawamura et al. (US 6,566,029) and note that the Examiner recognizes that the particles ionically bind to the graft surface in Kawamura '878 (see page 4, line 6 in the Office Action) and note that the Examiner recognizes that Kawamura '029 discloses fine particulate polymers such as a thermoplastic fine particulate polymers having a functional group capable of mutually acting with the hydrophilic graft polymer (see page 5, lines 5-6 in the Office Action).

The Examiner has maintained the above mentioned prior art rejections given that the Examiner maintains her position that the references meet the limitations of the claim language. Furthermore, the Examiner has taken the position that the newly added claim language that now recites that the particles "do not interact with a hydrophilic functional group of the graft polymer" is

Art Unit: 1773

ambiguous. The Examiner invites the Applicants to either specifically recite or state on the record what is intended by the limitation that the particles "do not ***interact*** with a hydrophilic functional group of the graft polymer". Page 31 of the instant application (as pointed out by the Applicants) discusses the use of convective assembly or self-assembly to form the laminated single particle layer however the claim language, as recited now, does not limit the claims to this particular embodiment.

### ***Conclusion***


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (571)272-1504. The examiner can normally be reached Mondays through Thursdays from 9:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571)272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 1773

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sheeba Ahmed  
Art Unit 1773  
May 26, 2007